

Inspection Report with SI&A Data

Structure Description: 370 Foot - 3 Span Steel continuous Stringer/Multi-beam or Girder

2 District: 05 **3 County:** Jefferson **16 Latitude:** 38°11'26.00" **7 Longitude:** 85°40'02.00"

7 Facility Carried: HIKES LN

Milepoint: 0.290

6A Feature Intersected: NORFOLK SOUTHERN RR

9 Location: .3 MI E OF OLD NEWBURG RD

NBI	X
Element	X
Fracture Critical	
Underwater	
Special	

NBI CONDITION RATINGS			
58 Deck:	4	61 Channel:	N
59 Superstructure:	5	62 Culvert:	N
60 Substructure:	6	Sufficiency Rating:	65.5

GEOMETRIC DATA		
48 Max Length Span:		134.000 ft
49 Structure Length:		370.000 ft
32 Approach Roadway:		54.000 ft
33 Median:		(3) Closed w/Barrier
34 Skew:		45°
35 Flare:		No Flare
50A Curb/Sidewalk Width L:		0.500 ft
50B Curb/Sidewalk Width R:		4.000 ft
47 Horiz. Clearance:		27.000 ft
51 Width Curb to Curb:		54.000 ft
52 Width Out to Out:		72.500 ft

DESIGN	
Substandard:	No
Fracture Critical:	No FC Details
43A Main Span Material:	(4) Steel Continuous
43B Main Span Design:	(02) Stringer / Girder
45 Number of Spans Main:	3
44A Approach Span Material:	Not Applicable
44B Approach Span Design:	Not Applicable
46 Number of Approach Spans:	0
107 Deck Type:	(1) Concrete-Cast-in-Place
108A Wearing Surface:	(6) Bituminous
108B Membrane:	(0) None
108C Deck Protection:	Unknown
Overlay Y/N:	Yes
Overlay Type:	Asphalt
Overlay Thickness:	3.000 in
Overlay Date:	

ADMINISTRATIVE		
27 Year Built:		1972
106 Year Reconstructed:		0
42A Type of Service On:		(1) Highway
42B Type of Service Under:		(2) Railroad
37 Historical Significance:		(5) Not Eligible
21 Maintenance Responsibility:		(02) County Hwy Agency
22 Owner:		(02) County Hwy Agency
101 Parallel Structure:		(N) No II Structure Exists

APPRAISAL		
36A Bridge Railings:		(0) Substandard
36B Transitions:		(0) Substandard
36C Approach Guardrail:		(1) Meets Standards
36D Approach Guardrail Ends:		(0) Substandard
71 Waterway Adequacy:		(N) Not Applicable
72 Approach Alignment:		(8) Equal Desirable Crit
113 Scour Critical:		(N) Not over Waterway
Recommended Scour Critical:		(N) Not over Waterway

CLEARANCES		
10 Vert. Clearance:		99.999 ft
53 Min. Vert. Clearance Over:		99.999 ft
54A Vert. Under Reference:		(R) Railroad beneath struct.
54B Min. Vert. Underclearance:		22.999 ft
55A Lateral Under Reference:		(R) Railroad beneath struct.
55B Min. Lat. Underclearance R:		13.500 ft
56 Min. Lat. Underclearance L:		0.000 ft

LOAD RATINGS		
63 Operating Type:		(2) Allowable Stress (AS)
64 Operating Rating:		110.0 tons
65 Inventory Type:		(2) Allowable Stress (AS)
66 Inventory Rating:		65.0 tons
Truck Capacity Type I:		20 tons
Truck Capacity Type II:		28 tons
Truck Capacity Type III:		37 tons
Truck Capacity Type IV:		40 tons

POSTINGS		
41 Posting Status:		(A) Open, No Restriction
Signs Posted Cardinal:		No
Signs Posted Non-Cardinal:		No
Field Postings Gross:		tons
Field Postings Type I:		tons
Field Postings Type II:		tons
Field Postings Type III:		tons
Field Postings Type IV:		tons

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12: Re Concrete Deck

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	26,825	22,264.75	83%	4,560.25	17%	0	0%	0	0%

Asphalt is cracked, deteriorated and has some potholes plus many patched areas.

510: Wearing Surfaces

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	19,985.38	16,587.87	83%	3,397.51	17%	0	0%	0	0%

7359: DO NOT USE Concrete Efflorescenc

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
SQ.FT	10.76	10.76	100%	0	0%	0	0%	0	0%

Asphalt is cracked, deteriorated and has some potholes plus many patched areas.

107: Steel Opn Girder/Beam

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	3,750	2	0%	3,728	99%	20	1%	0	0%

There is some minor rust on the structural steel. Several beams are rusting/deteriorating at the abutments. The paint is failing/peeling in multiple locations but the bottom of Beam 8 near abutment 1 is the worst. Heavy corrosion with section loss of beam 6 at abutment 4. Beam 4 at abutment 4 has 6 ft. with no paint on bottom and surface rust. 26 ft. of beam 8 and 5 ft. of beam 6 near abutment 1 has no paint on bottom with surface rust.

515: Steel Protective Coating

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	0.3	0.3	100%	0	0%	0	0%	0	0%

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205: Re Conc Column									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	12	6	50%	5	42%	1	8%	0	0%
Pier columns have minor cracks and spalls. Spall with exposed reinforcement at bottom of pier 2, column 1.									

215: Re Conc Abutment									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	177	169	95%	8	5%	0	0%	0	0%
Some minor cracking and deterioration in the abutment backwalls - large amounts of broken concrete, asphalt, and debris are falling/collecting on the seats.									

234: Re Conc Pier Cap									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	144	143	99%	0	0%	1	1%	0	0%
Minor spall/insufficient cover with exposed reinforcing steel on the bottom of pier 2. Exposed reinforcement on the east face of north end of pier 3.									

302: Compressn Joint Seal									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	91	0	0%	0	0%	0	0%	91	100%
The compression joint seal material at the west end is deteriorated, and missing in the westbound fast lane, median, and much of the EB lanes.									

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303: Assem Jnt With Seal

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	73	0	0%	0	0%	0	0%	73	100%

The General Tire modular expansion dam is gone and partially filled with asphalt. Some of the asphalt has fallen through the joint. The joint leaks.

311: Moveable Bearing

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	30	10	33%	10	33%	0	0%	10	33%

There is some moderate to severe rust on the structural steel bearings. The worst location is at the west abutment beneath the westbound lanes where the joint material is missing and at the east abutment under the modular joint. The bearing devices at the abutments are rusted with serious section loss. Rockers are over expanded at the abutments, especially at the east end.

The first three rockers at the west end on the north side, the third rocker in from the south side and the rocker beneath the south exterior beam at the east end have sheared 1 of the 2 bolts in them. Previous examination of the bolt from the southeast rocker shows it to have been broken for some time. One function of these bolts is to hold the rocker in place at the time of construction.

515: Steel Protective Coating

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	0.09	0.09	100%	0	0%	0	0%	0	0%

313: Fixed Bearing

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	10	10	100%	0	0%	0	0%	0	0%

NDN

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515: Steel Protective Coating									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
EACH	0.09	0.09	100%	0	0%	0	0%	0	0%

333: Other Bridge Railing									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
FT	740	618	84%	122	16%	0	0%	0	0%
Concrete plinths with metal railing on top. Plinths have minor cracks.									

803: Curb									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(LF)	1,480	1,050	71%	110	7%	320	22%	0	0%
Curbs have cracking and some spalls with resteel exposed, especially throughout the south curb.									

804: Sidewalk									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(LF)	371	339	91%	32	9%	0	0%	0	0%
Sidewalk has minor cracks and deterioration.									

851: Transitions									
Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	0	0%	0	0%	0	0%	1	100%
Transitions vary from 0 in. - 1 in., the worst is the westbound lanes coming of the structure which measure 1 in..									

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852: Drains

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	0	0%	0	0%	0	0%	1	100%

Drains need cleaning and drain pipes are rusting at the bottom. Drains should be cleaned to divert water from those areas that are eroding.

855: Debris on Super

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	0	0%	1	100%	0	0%	0	0%

Debris in westbound lane north gutter and along sidewalk on north side of the bridge.

857: Embankment Erosion

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	0	0%	0	0%	0	0%	1	100%

Embankment erosion at the north end of A1 has exposed steel piling. There is also erosion near the center of A4 and on the south side where water is coming through the joint.

859: Vegetation

Units	Total Qty	Qty. St. 1	% in 1	Qty. St. 2	% in 2	Qty. St. 3	% in 3	Qty. St. 4	% in 4
(EA)	1	0	0%	1	100%	0	0%	0	0%

Numerous trees present around and under structure. Tree overhanging sidewalk on right side of abutment 1. No major problems created by vegetation and trees at this time.

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STRUCTURE NOTES

-Hikes Lane runs from west to east, Newburg Road/KY 1703 to the west and Buechel Bypass/US 31E to the east.
 -Numerous inventory item quantities were changed for this bridge when measuring to obtain element level data. Item 48: Maximum span length was a laser measurement of the clear open distance between piers.

INSPECTION NOTES

Work Recommendations:

- Repair erosion and place erosion counter measures at northwest corner that has exposed steel piling. (Agree - L. Boller 01/16/14)
- Replace/eliminate joints (if design allows) (Agree - L. Boller 01/16/14)
- Replace wearing surface and include a waterproofing membrane. (Agree - L. Boller 01/16/14)
- Clean out drains. (Agree - L. Boller 01/16/14)
- Level and wedge approaches. (Agree - L. Boller 01/16/14)
- Reset/clean/paint rockers at abutments and fix broken anchor bolts. (Agree - L. Boller 01/16/14)
- Consider removing vegetation and trees around and under structure. Not causing problems at this time, but can be problematic if not addressed.

WORK

Action:	-